

**UNITED STATES PATENT APPLICATION**

*of*

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**A MULTIMEDIA UNIT HAVING MULTIPLE TRANSCEIVERS  
FOR USE IN A VEHICLE**

# **A MULTIMEDIA UNIT HAVING MULTIPLE TRANSCEIVERS FOR USE IN A VEHICLE**

## **BACKGROUND OF THE INVENTION**

5           The present invention relates to a vehicle multimedia system, and in particular to a vehicle multimedia system that includes a plurality of multimedia units that communicate over a data bus, and at least one of these multimedia units includes at least two transceiver modules that are controlled by a single network controller.

Motor vehicles such as for example cars, trucks, and busses may include a multimedia system that is configured as a ring-shaped data network. This network structure links several multimedia units to one another, which function as data source, data sink, or transceiver, as needed for the multimedia system.

A ring-shaped data network in a motor vehicle can link multimedia units such as for example a radio receiver, a television set, monitors, a CD player, a DVD player, a CD or DVD changer, a cassette recorder, active loudspeakers, a navigation system, a car telephone, a wireless telephone, as well as operating and control units. Two or more transceivers can be connected in series in the units enumerated above, although the unit outwardly has only one input and one output. However, from the point of view of the network, the transceivers in one unit are regarded as independent network subscribers. This makes it necessary to accommodate within this unit a network controller for all the transceivers present in this unit. However, this puts a heavy load on the processor of the unit.

Therefore, there is a need for an improved technique for connecting multimedia units of a vehicle multimedia system.

## SUMMARY OF THE INVENTION

Briefly, according to an aspect of the present invention, a multimedia system for use in a motor vehicle includes a plurality of multimedia units that are connected in a ring-shaped data bus.

5 At least one of the multimedia units includes at least two transceivers that are controlled by a single network controller.

Significantly, providing a single network controller for a multimedia unit having a plurality of transceivers relieves the processors of these units. From the point of view of the network, the transceivers of the multimedia unit no longer look like independent network subscribers. Rather, the network sees a non-intelligent node, which is controlled by an intelligent node.

The invention is especially suited for a ring-shaped MOST network.

These and other objects, features and advantages of the present invention will become more apparent in light of the following detailed description of preferred embodiments thereof, as illustrated in the accompanying drawings.

## BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a block diagram illustration of a multimedia system that includes a plurality of multimedia units that communicate over a ring-shaped network, such as a MOST network; and

FIG. 2 is a block diagram illustration of a multimedia unit that includes at least two  
20 transceivers and a single network controller.

## DETAILED DESCRIPTION OF THE INVENTION

A multimedia system 10 includes a plurality of multimedia units 12-21 that communicate over a ring-shaped network 24, such as a MOST network, via linkage sections 26-35. At least one of the multimedia units includes a plurality of transceiver modules. For example, in this embodiment multimedia units 12, 16-21 contain for example two transceiver modules TC, while units 13-15 include only one transceiver module TC. The linkage sections 26-35 that link the individual multimedia units 12-21 can be for example either cables or optical fibers.

Referring to FIG. 2, at least one of the multimedia units (e.g., 12) that includes a plurality of transceiver modules also includes a single network controller 40 that controls the transceiver modules TC.

Although the present invention has been shown and described with respect to several preferred embodiments thereof, various changes, omissions and additions to the form and detail thereof, may be made therein, without departing from the spirit and scope of the invention.

What is claimed is: